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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,766

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Byung Chul Ahn

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EXAMINER

TON, MINH TOAN T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/603,766

Applicant(s)

AHN ET AL.

Examiner

Toan Ton

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on papers filed 10/29/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-16, 20 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 18, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 19 and 24-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restriction

1. An election without traverse of species II is acknowledged. Claims 20-21 were inadvertently grouped with claim 17, however claims 20-21 depend on claim 16. Thus, claims 1-16 and 20-21 are withdrawn from consideration.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “electric field inducing windows are formed in the common electrode” (as recited in claim 24) and “the common auxiliary electrode is overlapped with adjacent gate and data lines” (as recited in claim 26) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 19 and 24 are objected to because of the following informalities:

claim 19: “substantially parallel” and “substantially perpendicular” should be changed to --parallel-- and --perpendicular--, respectively;

claim 24: “common electrodes” should be changed to --electrode--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear to how the lower and upper substrates are oriented at about 0° and about 90° in the pixel region. Typically, an alignment direction, not the substrate(s), in an LCD device is oriented at about 0° and about 90° in the pixel region. It appears that this is consistent with the present specification. Thus, the Examiner interprets claim 23 as having “alignment direction”, as appears in accordance with the present specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 17-18 and 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Ko et al (US 6788374).

Ko discloses a multi-domain LCD device comprising (see at least Figures 5-7, 9, 10, 11) : first and second substrates (40a, 40); gate and data lines (not shown) crossing each other on the first substrate to define a pixel region; a pixel electrode 41 in the pixel region; a common electrode 46 on the second substrate; a side electrode (Applicant's common auxiliary electrode) in the pixel region corresponding the periphery of the pixel region and having a portion crossing the pixel region, the portion of the side electrode crossing the pixel region dividing the pixel region into at least into regions; dielectric protrusions (47, 47a) on the common electrode in respective ones of the regions of the pixel region; and an (inherently) undoped liquid crystal layer sandwiched between the first and second substrates.

Ko discloses the dielectric protrusions diagonally formed in the regions of the pixel region not to be parallel with each other (see at least Figures 5-7, 9, 10, 11)

Both Ko and the present invention comprise the same structural device such as particular structures of the side electrode/common auxiliary electrode, dielectric protrusions (see at least

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Figure 7 of Ko, Figure 5 of the present invention), an alignment direction is oriented at about 0° and about 90° in the pixel region.

Allowable Subject Matter

7. Claims 19 and 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not anticipate nor render obvious to one ordinary skilled in the art a liquid crystal display device comprising a combination of various elements as claimed, more specifically, a particular structural of the common auxiliary electrode and dielectric protrusions (as recited in claim 17) and the followings: the common auxiliary electrode having a plurality of portions crossing the pixel region such that the pixel region has at least four regions, and wherein the dielectric protrusions are located in respective ones of the at least four regions wherein two of the dielectric protrusions are parallel to the gate line and two the dielectric protrusions are perpendicular to the gate line (claim 19); a particular structural of the common auxiliary electrode and dielectric protrusions (as recited in claim 17) and electric field inducing windows formed in the common electrode (claims 24-25); a particular structural of the common auxiliary electrode and dielectric protrusions (as recited in claim 17) and the common auxiliary electrode is overlapped with adjacent gate and data lines (claim 26).

Ko discloses a multi-domain LCD device comprising a common auxiliary electrode, dielectric protrusion. However, Ko fails to disclose a particular structural of the common

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auxiliary electrode and dielectric protrusions (as recited in claim 17) and the followings: the common auxiliary electrode having a plurality of portions crossing the pixel region such that the pixel region has at least four regions, and wherein the dielectric protrusions are located in respective ones of the at least four regions wherein two of the dielectric protrusions are parallel to the gate line and two the dielectric protrusions are perpendicular to the gate line (claim 19); a particular structural of the common auxiliary electrode and dielectric protrusions (as recited in claim 17) and electric field inducing windows formed in the common electrode (claims 24-25); a particular structural of the common auxiliary electrode and dielectric protrusions (as recited in claim 17) and the common auxiliary electrode is overlapped with adjacent gate and data lines (claim 26).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 10, 2005

TOANTON
PRIMARY EXAMINER

